ganglion in cases of major trigeminal neuralgia. The importance of total removal of the ganglion he considers is evident, and were the anatomic difficulties less it would be the only method free from criticism. This method alone, according to our present knowledge, insures total and permanent freedom from pain. He gives details in full of his method, which is different from that of Lexer, subsequently published and similarly successful, in the management of the meningeal artery, in that Cushing, so far as possible, carefully avoids injury to this artery, and generally with success. He also favors removal of the zygoma for cosmetic purposes, the slight flattening of the face thus produced being less disfiguring than the prominence of the bone with the muscular atrophy that follows the operation. He has also been able in many of his cases to reach the ganglion without much loss of blood, and claims that the small opening made by his method affords advantages in this regard during the removal of the ganglion itself and lessens the amount of packing required. He has had little success with the use of adrenalin or other methods than packing in checking the hemorrhage. Blood-pressure observations taken before and during the use of anesthetics are valuable in this connection as showing the patient's condition, and Cushing thinks that possibly his one fatal case might have been saved had more attention been given to the warnings furnished by this procedure. The clinical histories of his twenty cases thus operated on are given in detail and the results summarized. He remarks that he has not in all cases followed Krause's dictum that the ganglion operation should be performed only in those cases where previous neurectomies have been given a trial. In well-developed major neuralgia he thinks temporizing inadvisable, even for the temporary relief it may afford. The most important of the post-operative complications are those of the eye, and it is well to have an understanding with regard to this before operation. The commonest sequel is injury to the abducens. For safeguarding the eye Cushing uses rubber protective, and after the operation he advises the use of a large watch glass. with the edges covered with adhesive plaster so as to exclude the air and continued as long as conjunctival irritation threatens. His paper concludes with a number of physiologic considerations on the functions of the nerves and some remarks as regards the pathology. The morbid lesions underlying true trigeminal neuralgia are not yet revealed. The paper is fully illustrated.

IS DELUSIONAL INSANITY DUE TO DISEASE OF THE BRAIN? J. W. Wherry (The Alienist and Neurologist, February, 1904).

In the classification of insanity the author, according to origin being due to disease of the brain or otherwise, divides mental disorders into two classes: (1) Imbecility, general paresis, dementias. (2) All other forms of insanity grouped under general term of delusional insanity. With this distinction, prognosis is also considered. Those of the first group, having origin in disease of the brain, are incurable. Those of the second group, having origin in disturbed visceral function, are mostly curable. From pathological, physiological and psychological data, the writer discusses correctness of his opinions that "delusional insanity" is not of cerebral origin.

J. E. CLARK (New York).

THE GLOBUS HYSTERICUS AND ESOPHAGEAL SPASM. Buch (Gazetta d. Osp. e d. Clin., March 16, 1905).

It is generally accepted that globus hystericus is a spasm of the esophagus, but Buch calls attention to the fact that in spasm of the esophagus there always exists difficulty of deglutition, which is never the case in hysteria. The esophageal spasm is accompanied by a painful sensation of tightness, by a real pain, but the patient does not experience the sensation conveyed by the pressure of a foreign body in the esophagus; it is otherwise with the hysterical subject; while the sensation of pain is absent, the patient complains of a foreign body in the throat. The esophageal spasm attacks one definite spot, which may vary on different occasions, but never during the attack, the point most frequently involved being directly behind the sternum, whereas the globus hystericus is rather movable, often changing its place several times during one attack. Once the globus reaches the throat there is at once a sense of suffocation, which is never present in esophageal spasm, nor is there any vomiting in hysteria. Physiological contractions of the organs in the throat cause usually no sensation, whereas spastic contraction may sometimes be accompanied with pain; but never calls out the sensation of a foreign body. It should also be remembered that globus hystericus may first originate in the lower region of the abdomen, and thence travel upward. It thus becomes clear that we really have to deal, not with a cramp, but with the sensation simulating one. It is evidently the sympathetic nerve which may serve as the organ of irradiation, thus conveying to the patient the sense of pain in a locality different from the one where it really originates. On examining twenty hysterical patients with reference to the point the author obtained the following results: There was in all the cases a marked hyperalgesia of both the lumbar and the cervical sympathetic; this hyperalgesia was associated with real pain in the nerves that radiate from these regions; in almost half of the cases the globus hystericus could be called out by pressure on the lumbar part of the sympathetic. The globus hystericus consists of a sensation that emanates from the terminal filaments of the sympathetic with the included prevertebral branches. It thus happens that the sensation experienced by the hyperalgesic lumbar portion of the sympathetic tends to affect the hyperalgesic ganglia of the terminal nerves in such a way that the successive repetition of the stimuli determines in the ganglia themselves an activity which would otherwise remain latent. ROVINSKY.

EXHAUSTION DISEASES OF THE NERVOUS SYSTEM. L. Edinger (Deutsche med. Wochenschrift, 1904-1905).

Edinger, in an interesting series of articles, discusses once again the theory which he advanced some years ago that there are nervous diseases which develop because, under certain circumstances, the normal demands imposed by the performance of function are not met by a corresponding restoration within the tissues. The characteristic of this condition is a simple atrophy of nerve fiber. All diseases of the nervous system can be divided into focal diseases, toxic affections and exhaustion diseases. In healthy persons exhaustion is characterized anatomically within the cell by a disappearance of the tigroid bodies and perceptible changes in the medullated fibers. If the using up of tissue is too great, or the replacement is insufficient, there is more permanent and complete destruction of the cell and fiber. The glia proliferates to take the place of the degenerated nerve tissue. The process in all these diseases is identical, but the location differs. They are all progressive. These exhaustion diseases may arise on account of abnormal demands on the normal tracts, although there is normal restoration of the tissue. In this way may be explained the various atrophies from disuse and the professional neuritides. In other cases there is not a sufficient restoration to meet the demands of normal functions. These cases are usually due to some poison, such as syphilis or lead. He gives a number of interesting observations of lead paralysis to prove that the paralysis first affects the muscles upon which the greatest demands are made, and shows the excessive use of the extensors of the wrist in the use of the paint brush. He gives many instances also of the effect of over-exertion in one part or another in exciting or aggravating certain special symptoms of tabes. The cause of the exhaustion may differ according to the nature of the poison. Examples of this second class of exhaustion diseases are polyneuritis, tabes, combined systemic diseases and general paralysis. Exhaustion diseases may also develop when different nerve tracts are from the outset not sufficiently developed to be able per-